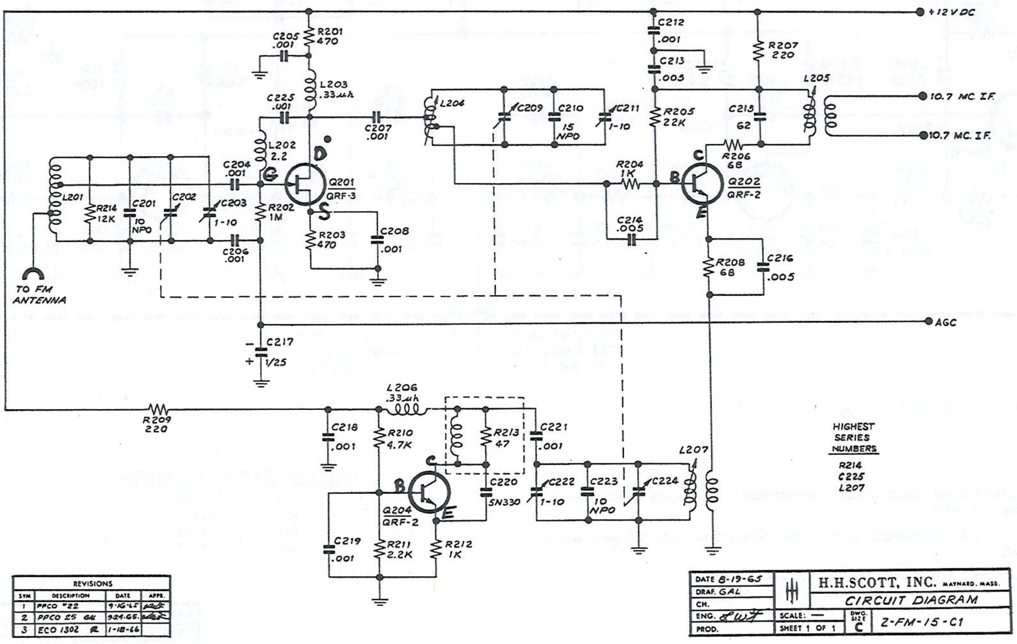
H. H. SCOTT, INC.
111 POWDER MILL RD., MAYNARD, MASS., 01754

SERVICE BULLETIN
FOR
MODEL 315B SOLID STATE FM STEREO TUNER

SPECIFICATIONS

Usable Sensitivity (IHF)	2 uv
Cross Modulation Rejection	80 db
Signal to Noise Ratio	60 db
Total Harmonic Distortion	0.8 %
Frequency Deviation	less than .02%
Frequency Response	* 50-15,000 cps ± 1 db
Capture Ratio	2.5 db
Selectivity	45 db
Hum	-65 db
AM Suppression	55 db
Separation	40 db
Audio Output (100% modulation)	2.0 v
Tuning Range	87-109 mc
Accuracy of Calibration	0.5 %
Output Impedance	
Recommended Load Resistance: greater than	25K ohms
Recommended Cable Capacitance: less than	400pf
Range of Line Voltage and Frequency	105-125v/50-60 cps
Power Consumption - AC ONLY - DO NOT OPERATE WITH DIRECT CURRENT	6 watts @ 117 v

* This is limit of F.C.C. specifications. ALL SCOTT tuners have far wider frequency response.


C205
.001
R201
470
L203
.33µh
C225
.001
L202
2.2
C207
.001
L204
C209
C210
15
NPO
C211
1-10
C212
.001
C213
.005
R207
220
R205
22K
C215
62
L205
+12 VDC
10.7 MC. I.F.
10.7 MC. I.F.
L201
R214
12K
C201
10
NPO
C202
C203
1-10
C204
.001
G
D
S
Q201
QRF-3
R202
1M
C206
.001
R203
470
C208
.001
TO FM
ANTENNA
R204
1K
C214
.005
B
C
E
R206
68
Q202
QRF-2
R208
68
C216
.005
AGC
C217
1/25
R209
220
C218
.001
L206
.33µh
R210
4.7K
R213
47
C221
.001
C220
5N330
Q204
QRF-2
C219
.001
R211
2.2K
R212
1K
C222
1-10
C223
10
NPO
C224
L207
HIGHEST
SERIES
NUMBERS
R214
C225
L207
REVISIONS
SYM | DESCRIPTION | DATE | APPR.
1 | PPCO #22 | 9-16-65
2 | PPCO 25 GAL | 9-24-65
3 | ECO 1302 R | 1-18-66
DATE 8-19-65
DRAF. GAL
CH.
ENG. LWF
PROD.
H.H.SCOTT, INC. MAYNARD, MASS.
CIRCUIT DIAGRAM
SCALE: —
SHEET 1 OF 1
DWG. SIZE C
Z-FM-15-C1

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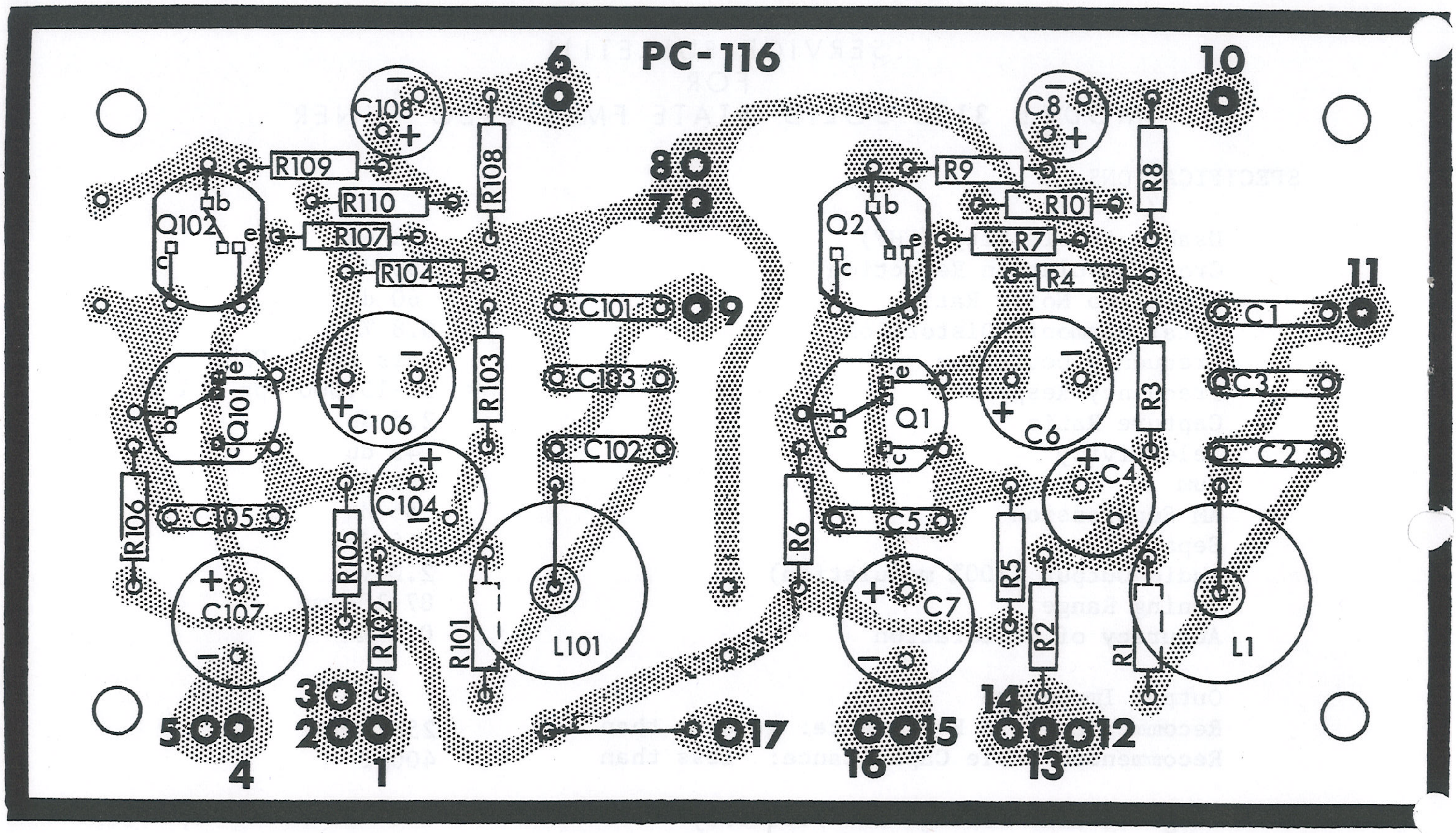
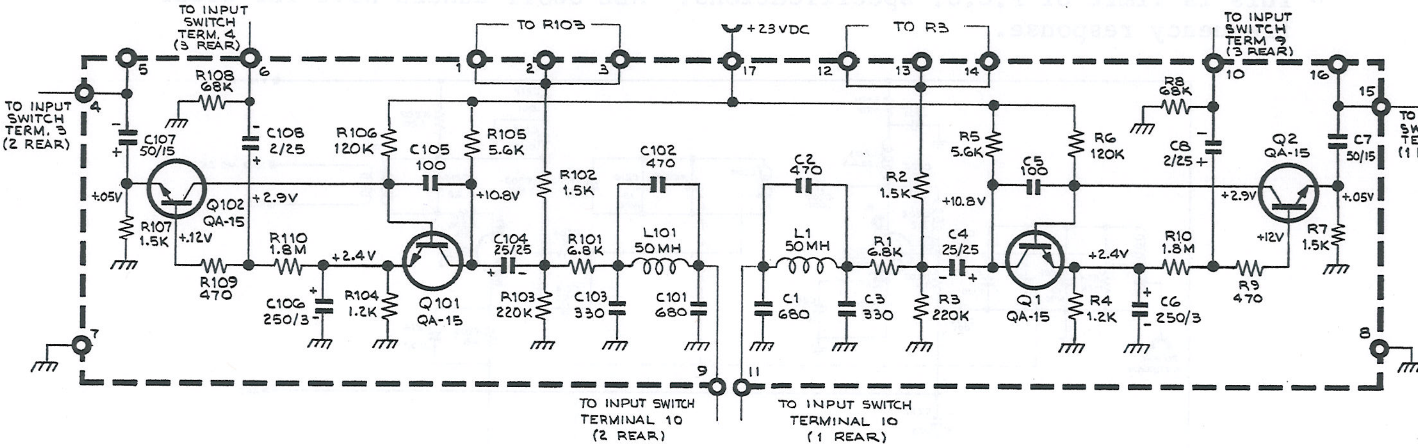
Q1 ,Q101
Q2,Q102 ┣ **2N2925, or 2N3711**


PC-116
6
10
C108
C8
R109
R110
R107
R104
R108
Q102
b
e
c
R9
R10
R7
R4
R8
Q2
80
70
C101
09
C1
11
C103
C3
C102
C2
Q101
C106
R103
Q1
C6
R3
C104
C4
R106
C105
C5
R6
R105
R102
R101
L101
C107
C7
R5
R2
R1
L1
30
200
500
4
1
017
0015
16
14
00012
13

PREAMP

Z-PC-P-8 00


TO INPUT SWITCH TERM. 4 (3 REAR)
TO R103
+23VDC
TO R3
TO INPUT SWITCH TERM. 9 (3 REAR)
TO INPUT SWITCH TERM. 3 (2 REAR)
TO INPUT SWITCH TERM. (1 REAR)
5
6
1
2
3
17
12
13
14
10
16
15
4
7
8
9
11
R108 68K
C107 50/15
C108 2/25
Q102 QA-15
R107 1.5K
+.05V
+2.9V
+12V
R110 1.8M
R109 470
+2.4V
C106 250/3
R104 1.2K
R106 120K
C105 100
R105 5.6K
+10.8V
Q101 QA-15
R102 1.5K
C102 470
C104 25/25
R101 6.8K
L101 50MH
R103 220K
C103 330
C101 680
C2 470
L1 50MH
C1 680
C3 330
R1 6.8K
R2 1.5K
R3 220K
C4 25/25
R5 5.6K
C5 100
R6 120K
+10.8V
Q1 QA-15
R4 1.2K
+2.4V
R10 1.8M
R9 470
C6 250/3
R8 68K
C8 2/25
Q2 QA-15
C7 50/15
+2.9V
+12V
+.05V
R7 1.5K
TO INPUT SWITCH TERMINAL 10 (2 REAR)
TO INPUT SWITCH TERMINAL 10 (1 REAR)

PREAMP Z-PC-P-8

00

NOTES:

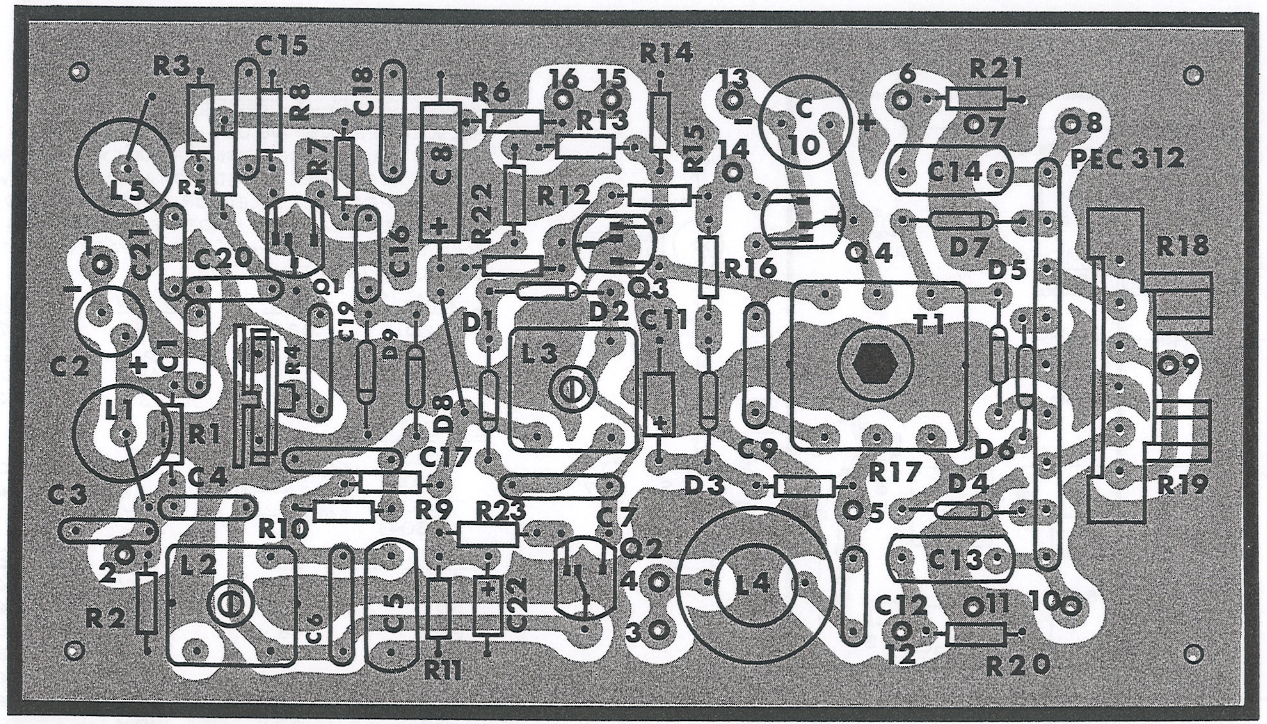
1. UNLESS OTHERWISE SPECIFIED: RESISTORS IN OHMS AND 1/4 WATT CAPACITORS IN MFD.
2. VOLTS DC ±15% MEASURED WITH 20K Ω/V.V.O.M NO SIGNAL AND 117V LINE
3. ARROW HEADS INDICATE MAIN SIGNAL PATH.

HIGHEST SERIES NUMBERS

C8	C108
R10	R110
Q2	Q102
L1	L101

DATE 8 NOV 66	H.H.SCOTT, INC. MAYNARD, MASS.			
DRAF. L. McGRATH				
CH.	CIRCUIT DIAGRAM			
ENG.	SCALE:	DWG. SIZE C	Z-PC-P-8	REV 0
PROD.	SHEET OF			

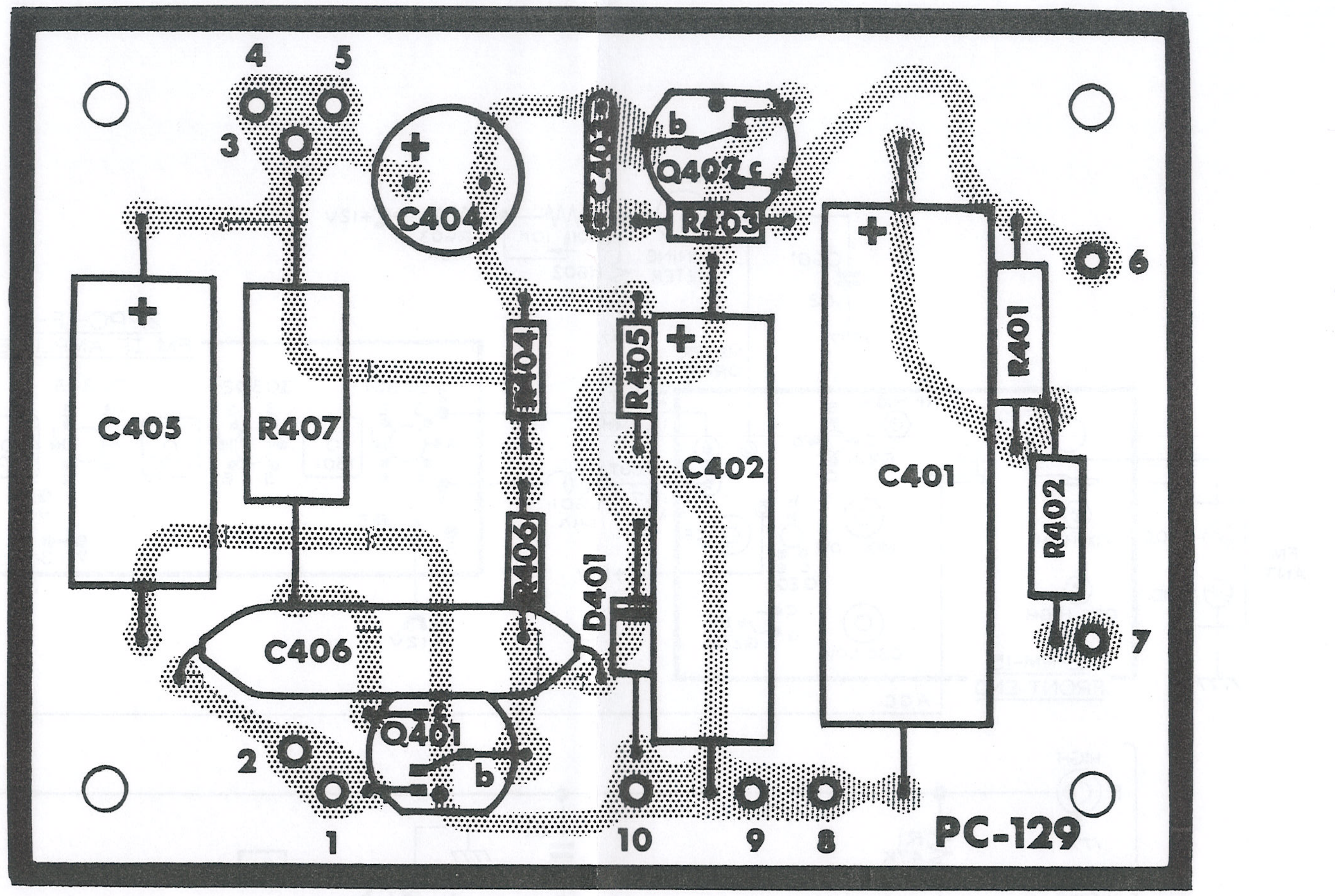
Q1 - 2N2924
Q2 - 2N2925 or SE4010 or QA-15
Q3 - 2N3964 or 2N4249 or 2N4250
Q4 - 2N3567



R3
C15
R8
C18
R6
16
15
R14
13
6
R21
O7
O8
PEC 312
L5
R3
R7
C8
R13
R15
C
10
+
14
C14
R22
R12
C21
C20
Q1
C16
Q3
R16
Q4
D7
R18
D5
C19
D9
D1
D2
C11
T1
C2
C1
R4
L3
O9
L1
R1
D8
C17
C9
R17
D6
R19
C4
C3
R9
R23
C7
D3
O5
D4
R10
Q2
2
L2
4
L4
C13
R2
C6
C5
C22
3
C12
O11
10
R11
12
R20

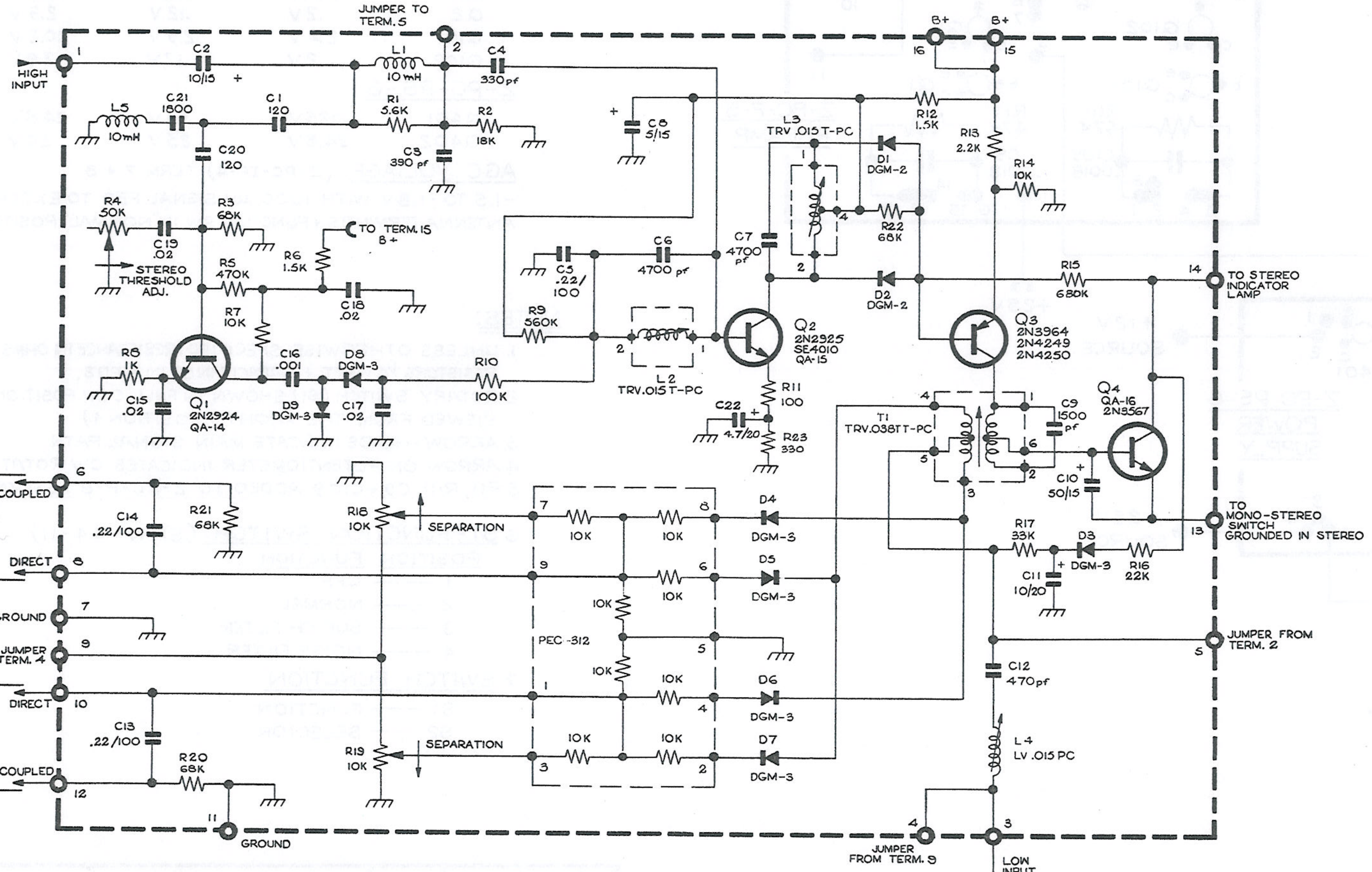
AUTOMATIC MULTIPLEX DEMODULATOR Z-PC-MX-14 01

Q401, Q402 — QA-10



4
5
3
+
C404
C403
b
Q402
c
R403
+
6
+
R401
R404
R405
+
C405
R407
C402
C401
R402
R406
D401
C406
7
2
Q401
b
1
10
9
8
PC-129

POWER SUPPLY Z-PC-PS-6 00



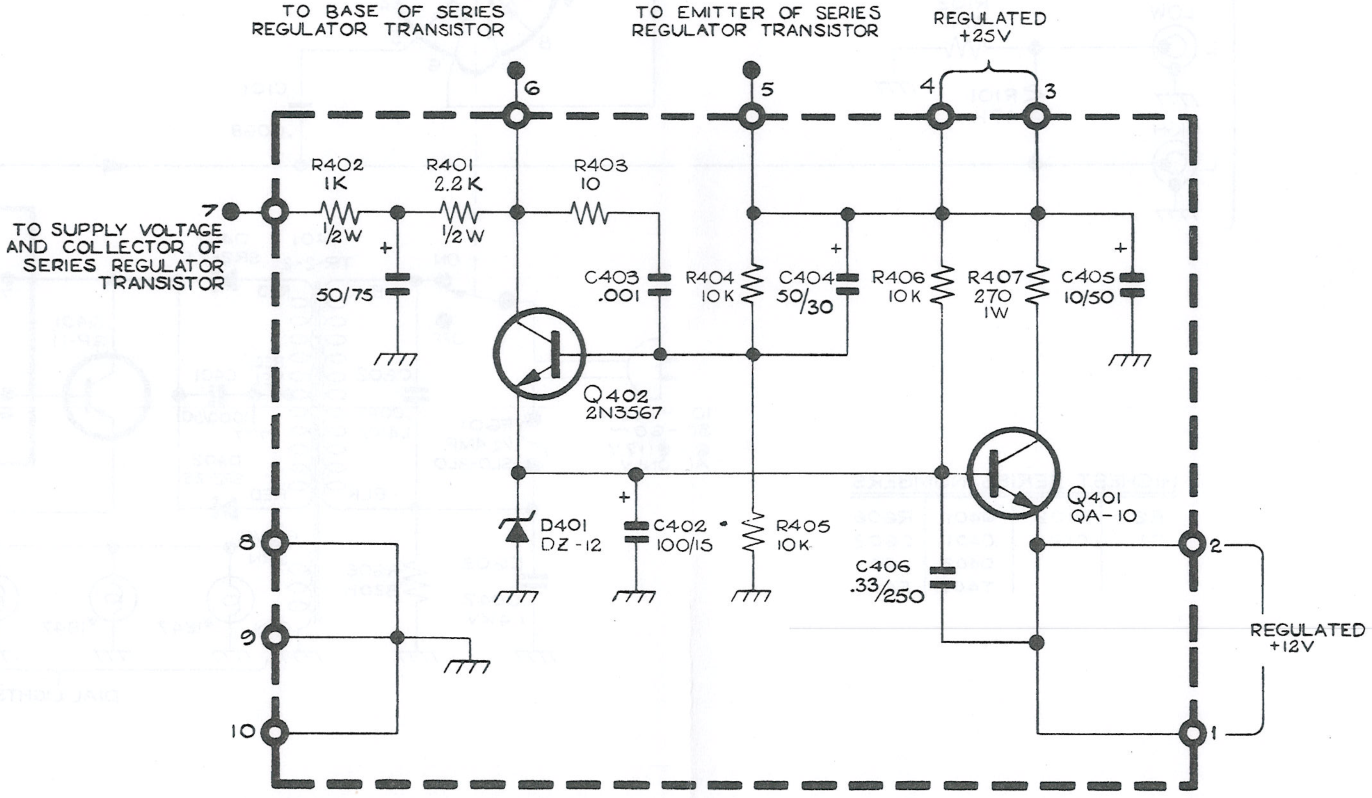
HIGH INPUT
1
C2 10/15
L1 10mH
JUMPER TO TERM. 5
2
C4 330pf
B+ 16
B+ 15
L5 10mH
C21 1500
C1 120
R1 5.6K
R2 18K
C5 330pf
C20 120
C8 5/15
L3 TRV.015T-PC
D1 DGM-2
R12 1.5K
R13 2.2K
R14 10K
R4 50K
C19 .02
STEREO THRESHOLD ADJ.
R3 68K
R5 470K
R6 1.5K
TO TERM. 15 B+
C18 .02
R7 10K
R22 68K
C3 .22/100
C6 4700pf
C7 4700pf
D2 DGM-2
R15 680K
14
TO STEREO INDICATOR LAMP
R8 1K
Q1 2N2924 QA-14
C15 .02
C16 .001
D8 DGM-3
D9 DGM-3
C17 .02
R9 560K
R10 100K
L2 TRV.015T-PC
Q2 2N2925 SE4010 QA-15
Q3 2N3964 2N4249 2N4250
R11 100
C22 4.7/20
R23 330
T1 TRV.038TT-PC
C9 1500pf
Q4 QA-15 2N3567
C10 50/15
6
COUPLED
LEFT OUTPUT
C14 .22/100
R21 68K
DIRECT
8
R18 10K
SEPARATION
D4 DGM-3
D5 DGM-3
R17 33K
D3 DGM-3
R16 22K
13
TO MONO-STEREO SWITCH GROUNDED IN STEREO
C11 10/20
GROUND
7
JUMPER TO TERM. 4
9
PEC-312
10K
JUMPER FROM TERM. 2
5
C12 470pf
DIRECT
10
RIGHT OUTPUT
C13 .22/100
R20 68K
COUPLED
12
R19 10K
SEPARATION
D6 DGM-3
D7 DGM-3
L4 LV.015 PC
11
GROUND
4
JUMPER FROM TERM. 9
3
LOW INPUT

AUTOMATIC MULTIPLEX DEMODULATOR Z-PC-MX-14

02

NOTES:
1. UNLESS OTHERWISE SPECIFIED: RESISTANCE IN OHMS ±10% CAPACITANCE IN MFD'S RESISTORS 1/4 WATT.
2. ARROWS ON POTENTIOMETERS INDICATE CW ROTATION.

DATE 11-2-66	H.H.SCOTT, INC. MAYNARD, MASS.			
DRAF. G	CIRCUIT DIAGRAM			
CH.				
ENG. LWF	SCALE: NONE	DWG. SIZE C	Z-PC-MX-14	REV 3
PROD.	SHEET 1 OF 1			



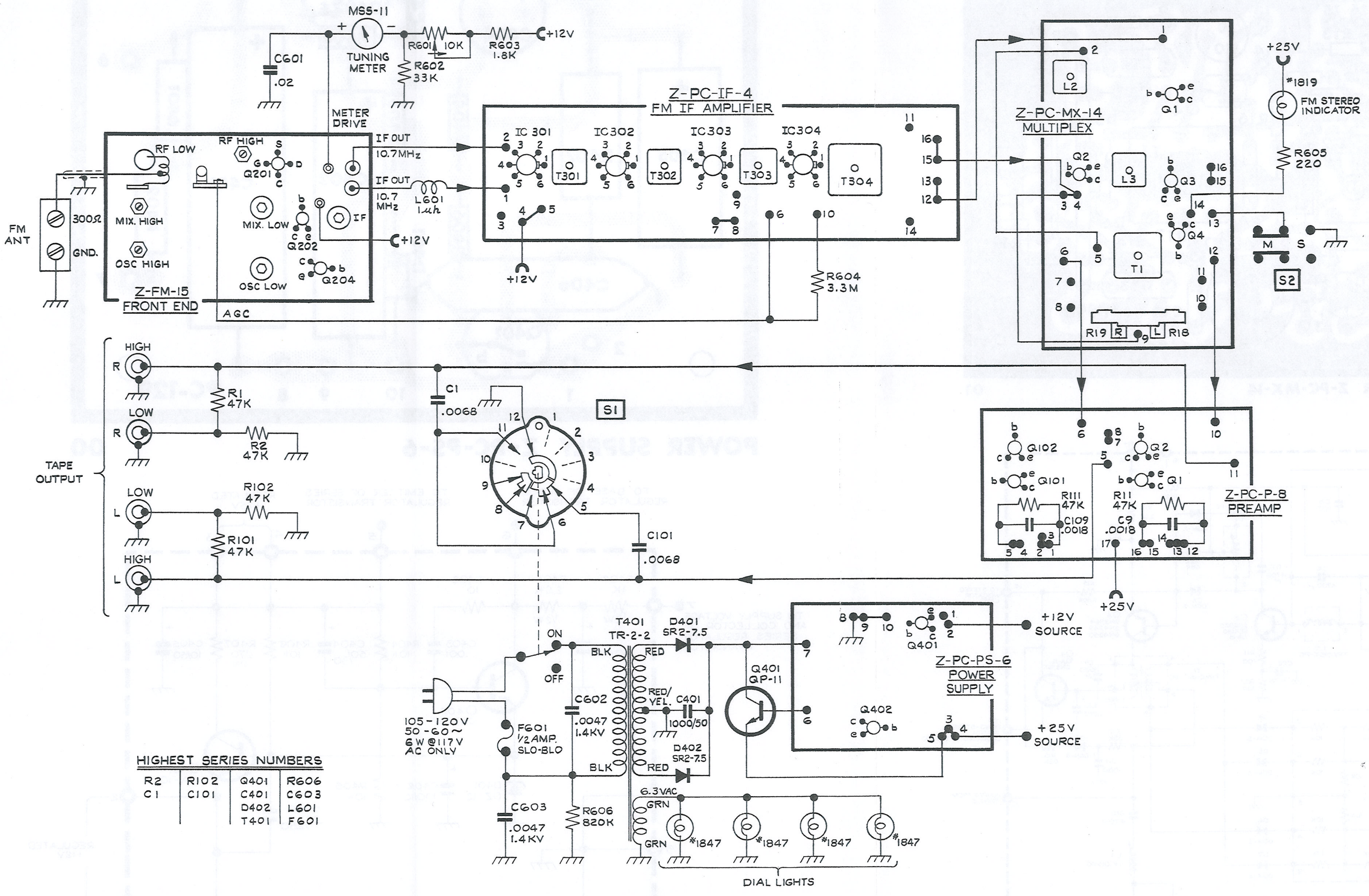
TO BASE OF SERIES REGULATOR TRANSISTOR
TO EMITTER OF SERIES REGULATOR TRANSISTOR
REGULATED +25V
6
5
4
3
7
TO SUPPLY VOLTAGE AND COLLECTOR OF SERIES REGULATOR TRANSISTOR
R402 1K 1/2W
R401 2.2K 1/2W
R403 10
50/75
C403 .001
R404 10K
C404 50/30
R406 10K
R407 270 1W
C405 10/50
Q402 2N3567
D401 DZ-12
C402 100/15
R405 10K
Q401 QA-10
C406 .33/250
8
9
10
2
1
REGULATED +12V

POWER SUPPLY Z-PC-PS-6

01

NOTES:
UNLESS OTHERWISE SPECIFIED
1. RESISTANCE IN OHMS ±10%
CAPAITANCE IN MFD'S
RESISTORS 1/4 WATT

DATE 12·8·66	H.H.SCOTT, INC. MAYNARD, MASS.			
DRAF. B	CIRCUIT DIAGRAM			
CH.				
ENG. LWF	SCALE: NONE	DWG SIZE C	Z-PC-PS-6	REV 1
PROD.	SHEET 1 OF 1			


MSS-11
TUNING METER
R601 10K
R603 1.8K
+12V
R602 33K
C601 .02
METER DRIVE
Z-PC-IF-4
FM IF AMPLIFIER
IC 301
IC302
IC303
IC304
T301
T302
T303
T304
IF OUT 10.7MHz
IF OUT 10.7 MHz
L601 1uh
RF LOW
RF HIGH
Q201
MIX. HIGH
MIX. LOW
Q202
OSC HIGH
OSC LOW
Q204
IF
FM ANT
300Ω
GND.
Z-FM-15
FRONT END
AGC
R604 3.3M
Z-PC-MX-14
MULTIPLEX
L2
Q1
Q2
L3
Q3
Q4
T1
R19
R18
+25V
#1819
FM STEREO INDICATOR
R605 220
S2
M
S
TAPE OUTPUT
HIGH
LOW
R1 47K
R2 47K
R102 47K
R101 47K
C1 .0068
C101 .0068
S1
Z-PC-P-8
PREAMP
Q102
Q101
Q2
Q1
R111 47K
C109 .0018
R11 47K
C9 .0018
ON
OFF
T401
TR-2-2
BLK
RED
RED/YEL.
D401 SR2-7.5
D402 SR2-7.5
C401 1000/50
Q401 QP-11
C602 .0047 1.4KV
C603 .0047 1.4KV
R606 820K
F601 1/2 AMP. SLO-BLO
105-120V 50-60~ 6W @117V AC ONLY
6.3VAC
GRN
#1847
DIAL LIGHTS
Z-PC-PS-6
POWER SUPPLY
Q401
Q402
+12V SOURCE
+25V SOURCE

HIGHEST SERIES NUMBERS

R2 C1	R102 C101	Q401 C401 D402 T401	R606 C603 L601 F601

VOLTAGES

UNLESS OTHERWISE SPECIFIED:

ALL VOLTAGES POSITIVE DC ±15% MEASURED WITH 20 KΩ/V VOM + 117 VAC LINE 300 OHM LOAD ON EXTERNAL ANTENNA TERMINALS TUNER OFF STATION + FUNCTION SWITCH IN "NORMAL" POSITION, SELECTOR SWITCH IN "MONO" POSITION.

*VOLTAGES MEASURED UNDER SAME CONDITIONS AS ABOVE ONLY SELECTOR SWITCH IN "STEREO" POSITION WITH STEREO SIGNAL FED INTO TUNER.

Z-FM-15	GATE	DRAIN	SOURCE
Q201	.025V	1.05V	9.2V
	e	b	c
Q202	.05 V	.45 V	10.8V
Q204	2.6 V	3 V	10.2V

Z-PC-IF-4

IC301, IC302, IC303, IC304:

- LEAD 1 —— 12V
- LEAD 2 —— 11.7V
- LEAD 3 —— 1.4V
- LEAD 4 —— 0V
- LEAD 5 —— 1.4V
- LEAD 6 —— 11.7V

Z-PC-MX-14	e	b	c
* Q1	.6 V	1 V	5.6V
* Q2	.8 V	1.2 V	8.6V
* Q3	8 V	6.5 V	.8 V
* Q4	0 V	.8 V	.2 V
Q1	.6 V	1 V	5.6 V
Q2	.8 V	1.2 V	8.6 V
Q3	9.2 V	10 V	0 V
Q4	0 V	0 V	25 V
Z-PC-P-8			
Q1	2.4V	2.9V	10.2 V
Q2	.2 V	.12 V	2.9 V
Q101	2.4 V	2.9 V	10.2 V
Q102	.2 V	.12V	2.9V
Z-PC-PS-6			
Q401	.025V	55V	24.8V
Q402	24.8V	25 V	50V

AGC VOLTAGE (Z-PC-IF-4) TERM 7 + 8.

-1.5 TO -1.8V WITH 1000 µV SIGNAL FED TO EXTERNAL ANTENNA TERMINALS + FUNCTION SW. IN "NORMAL" POSITION.

NOTES:

1. UNLESS OTHERWISE SPECIFIED: RESISTANCE IN OHMS ±1C RESISTORS 1/4 WATT, + CAPACITANCE IN MFD'S.
2. ROTARY SWITCH (S1) SHOWN IN FULL CCW POSITION AS VIEWED FROM THE FRONT (POSITION 1)
3. ARROW-HEADS INDICATE MAIN SIGNAL PATH.
4. ARROW ON POTENTIOMETER INDICATES CW ROTATION.
5. R11, R111, C9, + C109 ADDED TO Z-PC-P-8 ASSEMBLY
6. S1-FUNCTION SWITCH (SRW-44-11)

POSITION	FUNCTION
1	OFF
2	NORMAL
3	SUB CH FILTER
4	NOISE FILTER

7. SWITCH FUNCTION

S1 —— FUNCTION
S2 —— SELECTOR

DATE 3·20·67		H.H.SCOTT, INC. MAYNARD. MASS.		
DRAF.		CIRCUIT DIAGRAM		
CH. LK				
ENG.	SCALE: —	DWG. SIZE D	315B-C1	REV 0
PROD.	SHEET 1 OF 1			